

December 16, 1991

NOTE FOR: Christopher I. Grimes, Chief
Technical Specifications Branch
Division of Operational Events Assessment, NRR

FROM: Mary Lynn Reardon
Technical Specifications Branch
Division of Operational Events Assessment, NRR

SUBJECT: STS SECTION 4.0, DESIGN FEATURES, RESOLUTION OF OPEN ISSUES

On December 4, 1991, NRR technical staff and representatives from the owners groups met to resolve differences of opinion on four open issues of Standard Technical Specifications, Section 4.0, Design Features. These open issues remained after a November 4 discussion of Section 4.0, between NRR technical Staff and representatives of the owners groups. The list of attendees for the December 4 meeting is enclosed (Enclosure 1).

Two items were resolved for the PWRs and BWRs at the December 4 meeting. Two additional items on Fuel Storage, Section 4.3.1.1.a. (spent fuel storage) and 4.3.1.2.a. (new fuel storage) were resolved by the PWRs. The BWRs additional items were unresolved. The BWRs unresolved issues will be discussed at a December 18 meeting with the owners groups and NRR technical staff. The status of each item is presented in Enclosure 2.

Enclosure 3 is a recommended relocation of Section 4.3, fuel storage pool boron concentration requirements, to Section 3.7, Plant Systems. This recommendation was accepted by NRR technical staff and representatives of the owners groups attending the December 4 meeting.

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Mary Lynn Reardon
Technical Specifications Branch
Division of Operational Events Assessment

Enclosures: As stated

Distribution
FMReinhart, OTSB
CIHoxie, OTSB
TRTjader, OTSB
MLReardon, OTSB
LKopp, SRXB
HRichings, SRXB
OTSB Reading File
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A:\RESOLVE.4-0

Concurrence

OTSB/DOEA
MLReardon *MLR*
12/16/91

OTSB/DOEA
CIHoxie *CLH*
12/16/91

RETURN TO REGULATORY CENTRAL FILES

9201090227 911216
PDR ORG NRRB
CF

477-7
Advisory Committee Tech Spec

DPO3

December 4, 1991, STS Section 4.0 Attendees List

NAME	ORGANIZATION
Charles DeDeaux	CEP/Excel
John Molinda	WO
Mary Lynn Reardon	NP/OTSB
Larry Kopp	IR/SRXB
Blair Wunderly	BWOG/FPC
Bob Tjader	NRR/OTSB
Joe Stachew	EGG/NRC
Joel Friday	GE/BWROG
Jerry C. Jones	BWROG/Excel

RESOLUTION OF SECTION 4.0 OPEN ITEMS REMAINING AFTER THE NOVEMBER 4, 1991,
MEETING BETWEEN NRR TECHNICAL STAFF AND OWNERS GROUPS REPRESENTATIVES

1. Section 4.2.2 Control Rod Assemblies (Page 4.0-1)
Second Sentence of 4.2.2

This sentence of Section 4.0, Design Features, submitted to the PWRs for their review and comment stated:

"The control material shall be [silver-indium-cadmium, boron carbide, or hafnium metal] as approved by the NRC."

This sentence of Section 4.0, Design Features, submitted to the BWRs for their review and comment stated:

"The control material shall be [boron carbide, hafnium metal] as approved by the NRC."

The Reactor Systems Branch (SRXB) wanted to retain the specifics for the control rod material and representatives from the owners groups deemed that it was sufficient to state: "The control material shall be as approved by the NRC."

Resolution was that the owners groups accepted the original stated reference to the specific materials. Therefore Section 4.2.2., second sentence, remains as previously published with the specific materials for the control rod assemblies listed.

2. Section 4.3. Fuel Storage, Subsection 4.3.1.1.a. (spent fuel storage) (Page 4.0-4)

This sentence as submitted to the PWRs for their review and comment stated:

"Fuel assemblies having a maximum uranium-235 enrichment of [] weight percent, [burnup limits,] and a $K_{\text{eff}} \leq 0.95$ when flooded with unborated water, which includes an allowance for uncertainties as described in Section [9.1] of the FSAR;"

This sentence as submitted to the BWRs for their review and comment stated:

"Fuel assemblies having a maximum K-infinity of [] and a $K_{\text{eff}} \leq 0.95$ when moderated by unborated water, which includes an allowance for uncertainties as described in Section [9.1] of the FSAR;"

NRR technical staff and representatives from the owners groups agreed on November 4, that this single paragraph should be divided into 2 paragraphs for the PWRs, i.e., (1) on maximum enrichment of the fuel assemblies and (2) on K-eff. The resolution of the December 4 meeting was that the PWRs paragraph should be as follows:

4.3.1.1.

- a. Fuel assemblies having a maximum U-235 enrichment of [4.5] weight percent.
- b. K-eff no greater than 0.95 if fully flooded with unborated water which includes an allowance for uncertainties as described in [Section 9.1 of the FSAR].

The BWRs are considering dividing their single paragraph into two paragraphs with the addition of an average U-235 enrichment or maximum K-infinity to the restructured paragraphs, which the NRR staff wants included. This open issue will be discussed at the NRR technical staff and owners group meeting on December 18, 1991.

Because the former single paragraph 4.3.1.1.a. has been divided into two alpha designated (a. and b.) paragraphs, the alpha designated former 4.3.1.1.b. will now become 4.3.1.1.c. This is true for all the PWRs. This is an editorial change and will be resolved by Generic Justification J.

3. Section 4.3 Fuel Storage, Subsection 4.3.1.1.c. (boron concentration) (Page 4.0-4)

Basic construction of 4.3.1.1.c. for PWRs stated:

"A minimum boron concentration of [] ppm, which shall be verified weekly."

The BWR/4 did not have a 4.3.1.1.c. and the draft STS BWR/6 4.3.1.1.c. was acceptable to NRR technical staff and representatives of the owners groups. Therefore no change was made to the BWR/6 4.3.1.1.c. as published.

NRR technical staff suggested that Section 4.3.1.1.c. for the PWRs should be relocated to plant systems technical specifications, spent fuel storage pool. (See the enclosed recommendations by NRR technical staff member, Larry Kopp, SRXB [Enclosure 3]).

This resolution to relocate PWR 4.3.1.1.c. to plant systems technical specifications, was accepted by the NRR technical staff and representatives of the owners groups.

4. Section 4.3., Fuel Storage; 4.3.1.2.a. (new fuel storage) (Page 4.0-4)

The PWRs' 4.3.1.2.a. submitted to them stated:

"Fuel assemblies having a maximum uranium-235 enrichment of [] weight percent and a K-eff [≤ 0.95 when moderated with unborated water and] [≤ 0.98 when moderated by aqueous foam or means to prevent aqueous foam entry], [both of] which include an allowance for uncertainties as described in [Section 9.1 of the FSAR]; and"

The BWRs 4.3.1.2.a. submitted to them stated:

"Fuel assemblies having a maximum K-infinity of [] and a K-eff [≤ 0.95 when flooded with unborated water of] [≤ 0.98 when moderated by aqueous foam or means to prevent aqueous foam entry], [both of] which include an allowance for uncertainties as described in Section [9.1] of the FSAR; and"

NRR technical staff had recommended that this paragraph be divided into two paragraphs: (1) on fuel enrichment and (2) on K-eff.

Previous to the November 4 meeting, NRR technical staff (SRXB) had commented that since boron concentration is relied upon in spent fuel pool safety analyses (Double Contingency) for accidents such as misplaced assemblies and dropped assemblies, a minimum value and surveillance requirement should be included in the technical specifications.

The December 4 resolution of the PWRs' single paragraph was:

4.3.1.2.

- a. Fuel assemblies having a maximum U-235 enrichment of [4.5] weight percent.
- b. K-eff no greater than .095 if fully flooded with unborated water which includes an allowance for uncertainties as described in [Section 9.1 of the FSAR].
- c. K-eff no greater than 0.98 if moderated by aqueous foam which includes an allowance for uncertainties as described in [Section 9.1 of the FSAR]).

The BWRs are considering dividing their single paragraph into two paragraphs with the addition of an average U-235 enrichment or maximum K-infinity to the restructured paragraphs, which the NRR staff wants included. This open issue will be discussed at the NRR technical staff and owners group meeting on December 18, 1991.

With the division of the PWR former 4.3.1.2.a. into 4.3.1.2.a., 4.3.1.2.b., and 4.3.1.2.c. then the former 4.3.1.2.b. will now become 4.3.1.2.d. This is true for all the PWRs. This is an editorial change and will be justified by Generic Justification J.

3.7.X Fuel Storage Boron Concentration (PWRs only)

LCD 3.7.X The fuel storage pool boron concentration shall be greater than or equal to [1800] ppm.

APPLICABILITY: When fuel assemblies are in the fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
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-----NOTE-----
 LCD 3.0.3 and LCD 3.0.4
 are not applicable.

A. Fuel storage pool boron concentration not within limit.	A.1 Suspend movement of fuel assemblies in fuel storage pool.	Immediately
	AND	
	A.2 Initiate action to restore the fuel storage pool boron concentration.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
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SR 3.7.X.1 Verify the fuel storage pool boron concentration is greater than or equal to [1800] ppm.	[7] days
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